State of Alaska - Air Operating Permit Program
Owner Requested Limit

FACILITY IDENTIFICATION: **No. 796ORL01**

Owner/Operator:	Marathon Oil Company
Facility Name:	Falls Creek (FC) Pad Triethylene Glycol (TEG) Dehydration Unit
Owner Address:	PO Box 196168
City, State, Zip:	Anchorage, Alaska 99519-6168
Latitude/Longitude:	60° 12' 06" North, 151° 26' 05" West
Facility Contact:	Mr. John A. Barnes
Phone Number:	(907) 564 - 6400

The above-named owner/operator has submitted a complete application for an owner-requested limit under 18 AAC 50.225(b) for the Falls Creek (FC) Pad Triethylene Glycol (TEG) Dehydration Unit. The Department grants an owner-requested limit to restrict the potential to emit of the facility to avoid the requirements for an operating permit under 18 AAC 50.325(b)(2) and 40 CFR 63.760 Subpart HH – National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities. The Department certifies that the owner-requested limit is effective as of the date noted below.

In accordance with 18 AAC 50.225(f), the applicant has agreed to the conditions listed on the following pages.

The owner or operator may revise this limit under 18 AAC 50.225(h) by submitting a new request under 18 AAC 50.225(b). This limit remains in effect until the revision is approved. The owner or operator may terminate this limit according to the procedures of 18 AAC 50.225(h).

I understand and agree to the terms and conditions of this approval.

_____ _____

Owner or Operator Printed Name

Title: _____

This certifies that on _____, (date) the person named above appeared before me, a notary public

in _____ and for the State of _____, and signed the above statement in my presence.

Notary Signature & Seal _____

My commission expires: _____

Department approval:

_____ _____

John F. Kuterbach, Program Manager Owner Requested Limit Effective Date
Air Permit Program

CONDITIONS

1. The owner/operator shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of collection. Support information includes monthly records of gas throughput rates in MMSCF / DAY, monthly records of hours of operation of the control device, all copies of all GRI-GLYCalc calculations to used to determine actual HAPs emissions from the still column vent and copies of reports and certifications required by this approval.

2. The owner/operator shall submit two copies of an annual compliance report to the Alaska Department of Environmental Conservation, Air Permits Program, 610 University Ave, Fairbanks, AK, 99707-3643, ATTN: Compliance Technician. The report is due by **March 31** for information from the period January 1 through December 31. The reports are to contain:

   (A) The name of the owner/operator, the facility name, ORL number, and the period of the report;
   (B) A listing of the monthly throughput rates for the Falls Creek (FC) Pad for the past 12 months, by month;
   (C) After the Falls Creek (FC) Pad has been in operation for 12 months, the records shall contain the listing from B above and a rolling 12 month average for the throughput rate of the facility.
   (D) A listing of the hours of operation of the control device listed in Table 1 for the past 12 months, by month;
   (E) After the TEG Dehydration Unit has been in operation for 12 months the records shall contain the listing from D above and a rolling 12 month total for the hours of operation of the control device.
   (F) A listing of the annual HAPs emissions in the still vent gas. Based on the monthly data collected, the HAPs emissions need only be calculated semi-annually using GRI-GLYCalc, Version 3.0 or higher, unless the throughput rate for the TEG Dehydration Unit is exceeding 45 MMSCFD. If the rolling twelve month average for the throughput of the TEG Dehydration Unit is noted as exceeding 45 MMSCFD in any calendar month, the HAPs emissions shall be estimated and appropriate adjustments made in order to ensure that the control device is operated an adequate number of hours to control emissions.
   (G) The reports **must clearly identify any deviation** from the limit requirements; and
   (H) A certification of report information, signed by the Responsible Official defined in 18 AAC 50.990(77), using the format of 18 AAC 50.205.

3. The owner/operator shall fax a notification to the Fairbanks Air Permit Program office at (907) 451-2187 within seven days of discovery if:

   a) An emissions calculation indicates that any one hazardous air pollutant emission rate is exceeding 9 tons per year or any combination of HAPs is exceeding 22.5 tons per year; or
   b) Any significant malfunction of a control device occurs which would allow any one HAP emission rate to exceed 9 tons or any combination of HAPs would exceed 22.5 tons per year.

4. The Marathon Oil Company Ninilchik Development Falls Creek (FC) Pad shall report any excess air emissions or deviation from the conditions to ADEC no later than seven days after discovering the excess emission or deviation. To report the excess emissions, the facility must fax a completed and signed ADEC Notification Form to ADEC at (907) 269-7508. The Excess Emission Notification Form may be obtained from the Air Permits Web Site at:

http://www.state.ak.us/dec/dawq/aqm/eeform.pdf

Statement of Avoided Requirement:

The potential to emit of the triethylene glycol (TEG) dehydration unit at the facility for any one hazardous air pollutant is reduced to less than 10 tons per year. The potential to emit of any combination of hazardous air pollutants is reduced to less than 25 tons per year by limiting the hazardous air pollutant emissions by operation of the triethylene glycol dehydration unit control device. In accordance with 18 AAC 50.210, the capacity of the facility to emit an air contaminant is verifiable through the monitoring, recordkeeping, and reporting contained in this approval. By limiting the potential to emit of the sources listed in Table 1, the owner/operator is avoiding the requirement to obtain an operating permit for a facility that is classified under AS 46.14.130 (b) and 18 AAC 50.325(b)(2).

The maximum emission summary for this facility for the principal sources is as follows:

TEG Dehydration Unit Vent Uncontrolled 50 MMSCFD throughput

65.9 tons per year combined HAPs (uncontrolled) 36 tons per year Xylene (uncontrolled)

At 50 MMSCFD throughput and 100% operation of the control devices the HAPs emissions Can be controlled to 0.3 tons per year total.

Table 1
Inventory Subject to Limit

Description	Buildings	Rated Capacity	Make / Model
Triethylene Glycol (TEG) Contactor #1		25 MM SCF / Day	
Triethylene Glycol (TEG) Contactor #2		25 MM SCF / Day	
Control Device			JATCO BTEX Eliminator System (flash tank & condenser)

Glossary

Glycol Dehydration Unit = the entire skid of process equipment required to dehydrate the natural gas (TEG contactor, reboiler, etc.).

Contactor = General term for the vessel in which the glycol and natural gas are combined. In GLYCalc, the contactor is the point where glycol mixes with wet natural gas. This is typically just an injection point in the pipe. For Falls Creek (FC), there is initially one Contactor rated at 25 MMSCFD, with plans for future expansion of an additional Contactor at 25 MMSCFD, for a total future potential of 50 MMSCFD.

TEG Regenerator (reboiler and still) = The vessel in a glycol dehydration unit that contains a heat source (usually a fire-tube burning natural gas) to drive water and other absorbed compounds from the glycol. The reboiler is part of the regenerator.

JATCO BTEX Eliminator System = The additional piece of equipment (control device) added to the dehydration unit to control HAP emissions. The BTEX Eliminator System is specifically connected to the reboiler to control the emissions.

Excess Emission Notification Form

ADEC Notification Form

Fax this form to: (907) 269-7508 Telephone: (907) 269-8888

Company Name

Facility Name

Reason for notification:

❑ **Excess Emissions**
If you checked this box
Fill out section 1

❑ **Other Deviation from Permit Condition**
If you checked this box
fill out section 2

When did you discover the Excess Emissions or Other Deviation:
Date:__/__/__ Time:__:__

Section 1. Excess Emissions

(a) Event Information (Use 24-hour clock):

	START Time:	**END** Time:	**Duration** (hr:min):
Date: _____	_____:_____	_____:_____	_____:_____
Date: _____	_____:_____	_____:_____	_____:_____
		Total:	_____:_____

(b) Cause of Event (Check all that apply):

❑ START UP ❑ UPSET CONDITION ❑ CONTROL EQUIPMENT
❑ SHUT DOWN ❑ SCHEDULED MAINTENANCE ❑ OTHER _____

Attach a detailed description of what happened, including the parameters or operating conditions exceeded.

(c) Sources Involved:

Identify each emission source involved in the event, using the same identification number and name as in the permit. List any control device or monitoring system affected by the event. Attach additional sheets as necessary.

Source ID No.	Source Name	Description	Control Device
_____	_____	_____	_____
_____	_____	_____	_____

(d) Emission Limit Potentially Exceeded

Identify each emission standard potentially exceeded during the event. Attach a list of ALL known or suspected injuries or health impacts. Identify what observation or data prompted this report. Attach additional sheets as necessary.

Permit Condition	Limit	Emissions Observed
_____	_____	_____
_____	_____	_____

(e) Excess Emission Reduction:

Attach a description of the measures taken to minimize and/or control emissions during the event.

(f) Corrective Actions:

Attach a description of corrective actions taken to restore the system to normal operation and to minimize or eliminate chances of a recurrence.

(g) Unavoidable Emissions:

Do you intend to assert that these excess emissions were unavoidable?

❑ YES ❑ NO

Do you intend to assert the affirmative defense of 18 AAC 50.235?

❑ YES ❑ NO

Section 2. Other Permit Deviations

(a) Sources Involved:

Identify each emission source involved in the event, using the same identification number and name as in the permit. List any control device or monitoring system affected by the event. Attach additional sheets as necessary.

Source ID No.	Source Name	Description	Control Device

(b) Permit Condition Deviation:

Identify each permit condition deviation or potential deviation. Attach additional sheets as necessary.

Permit Condition	Potential Deviation

(c) Corrective Actions:

Attach a description of actions taken to correct the deviation or potential deviation and to prevent recurrence.

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name:

Signature: Date